What is claimed is:

1.   A method of monitoring electronic tag operation comprising the steps of

passing an item through a read volume;

identifying the item by reading a label on the item and obtaining identification data;

determining whether the item includes an EAS tag by attempting to sense an EAS tag;

if an EAS tag has been sensed, (a) attempting to deactivate the EAS tag and (b) validating whether the EAS tag has been deactivated by attempting to re-sense the EAS tag after attempting to deactivate;

if the EAS tag has been re-sensed, repeating steps (a) and (b) for a given period or a given number of cycles;

assembling data of EAS system operation pertaining to sensing and attempting to deactivate the EAS tag;

correlating the EAS system operation data to the item identified.

2.   A method according to Claim 1 wherein the step of correlating comprises appending the operation data collected to the identification data and transmitting the data as a combined data string.

3.   A method according to Claim 1 wherein the step of correlating comprises sending the identification data to a host and separately sending the EAS system operation data to the host.

4. A method according to Claim 3 wherein the step of correlating further comprises matching the EAS system operation data to the identification data if the EAS system operation data is received by the host within time period of receiving the identification data.

5. A method according to Claim 1 wherein the step of assembling data comprises measuring a time it takes to sense the EAS tag.

6. A method according to Claim 1 wherein the step assembling data comprises recording number of deactivation attempts made for the item.

7. A method according to Claim 1 wherein the step assembling data comprises recording an event of unsuccessful deactivation of the EAS tag.

8. A method according to Claim 1 wherein the step of assembling data comprises identifying a defective EAS tag.

9. A method according to Claim 8 further comprising tallying number of defective EAS tags by type of item identified.

10. A method according to Claim 1 wherein the step of assembling data comprises determining EAS tag quality.

11. A method of operating a data reading and electronic article security (EAS) system, comprising the steps of:

(a) obtaining item identification data by reading a label on an item being passed through a read volume of a data reader;

(b) attempting to sense an EAS tag on the item;

(c) if an EAS tag has been sensed, attempting to deactivate the EAS tag;

(d) collecting data with respect to operation and/or results of steps (b) and (c).

12   A method according to Claim 11 further comprising

(e)   correlating the operation data collected to the item identified.

13.   A method according to Claim 12 wherein the step of correlating comprises appending the operation data collected to the identification data and transmitting data as a combined data string.

14.   A method according to Claim 13 further comprising

(f) storing the combined data in the data reader.

15.   A method according to Claim 13 further comprising

repeating steps (a) through (e) for subsequent items and storing the combined data for each of the items in the data reader;

transmitting the combined data for items to a host for further processing.

16. A method according to Claim 12 wherein the step of correlating comprises sending the identification data to a host and separately sending the EAS system operation data to the host.

17. A method according to Claim 16 wherein the step of correlating further comprises matching the EAS system operation data to the identification data if the EAS system operation data is received by the host within time period of receiving the identification data.

18. A method according to Claim 11 wherein the step of collecting data comprises measuring a time it takes to sense the EAS tag.

19. An apparatus for monitoring and reporting electronic article surveillance (EAS) tag readability in a combined data reader and electronic article security (EAS) system, comprising
   a data reader for reading a label on an item being passed through a read volume;
   means for measuring values of EAS tag detection and/or deactivation during operation for providing indication of EAS tag operability.

20. An apparatus according to Claim 19 further comprising
   data accumulation means including a memory storage portion for accumulating measured values for each set of EAS tags; and
   computing means for analyzing the measured values and reporting the measured values.

21. An apparatus according to Claim 19 wherein the data accumulation means comprises a single device connected to a plurality of data readers for monitoring system performance and readability of the EAS tags.

22. A system for monitoring electronic article surveillance (EAS) tag quality comprising:

a combined data reader and EAS system for reading labels appended to an item and for sensing and deactivating EAS tags appended to the item;

means within the combined system for identifying a defective EAS tag;

means for indicating presence of the defective EAS tag;

means within the combined system for tallying a number of defective EAS tags by type of item identified.

23. A system according to Claim 22 further comprising

memory within the combined system for storing the number of defective EAS tags by type of item identified;

a point-of-service terminal coupled to the combined system having access to information stored in the memory.

24. A system according to Claim 22 wherein the means for indicating presence comprises notifying operator.

25. A method of monitoring electronic tag operation comprising the steps of:

passing an item through a read volume;

determining whether the item includes an RFID tag by attempting to read an RFID tag;

if an RFID tag has been read, (a) attempting to write to the RFID tag and (b) validating whether the RFID tag has been written successfully by reading the RFID tag after attempting to write it;

if the RFID tag was not written successfully, repeating steps (a) and (b) until the RFID tag is written successfully; and

assembling data of RFID system operation pertaining to reading and writing the RFID tag.

26. A method according to Claim 25 including: identifying the item by obtaining identification data; and

correlating the RFID system operation data by appending the assembled RFID system operation data to the identification data and transmitting the data as a combined data string.

27. A method according to Claim 26 wherein said identifying the item comprises reading a label on the item.

28. A method according to Claim 26 wherein the step of correlating comprises sending the identification data to a host and separately sending the RFID system operation data to the host.

29. A method according to Claim 26 wherein the step of correlating further comprises matching the RFID system operation data to the identification data if the RFID

system operation data is received by the host within a predetermined time period of receiving the identification data.

30. A method according to Claim 26 wherein the step of assembling data comprises assembling data indicative of RFID tag quality.

31. A method according to Claim 26 wherein the step of assembling data includes measuring a time it takes to read the RFID tag.

32. A method according to Claim 26 wherein the step of assembling data comprises recording a number of attempts made to write the RFID tag.

33. A method according to Claim 26 wherein the step of assembling data comprises recording a number of attempts made to read the RFID tag.

34. A method according to Claim 26 wherein the step assembling data comprises recording an event of unsuccessful writing to the RFID tag.

35. A method according to Claim 26 wherein the step of assembling data comprises recording an event of unsuccessful reading of the RFID tag.

36. A method according to Claim 26 wherein the step of assembling data comprises identifying a defective RFID tag based on failure to successfully write to the tag.

37. A method according to Claim 36 further comprising counting a number of RFID tags identified as defective by type of item identified.

38. A method according to Claim 26 wherein the step of assembling data comprises identifying a defective RFID tag based on failure to successfully read the tag.

39. A method according to Claim 38 further comprising counting a number of RFID tags identified as defective by type of item identified.

40. A method according to Claim 26 and further including assessing RFID tag quality.

41. A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a read range of the tag.

42. A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a write range of the tag.

43. A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a return signal quality of the tag.

44. A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a return signal frequency of the tag.

45. A method according to Claim 40 wherein said assessing RFID tag quality includes estimating a return signal strength of the tag.

46. A method of monitoring electronic tag operation comprising the steps of:

passing an item through a read volume;

identifying the item by reading a label on the item and obtaining identification data;

determining whether the item includes an RFID tag by attempting to read an RFID tag;

if an RFID tag has been read, first storing the read data as an RFID data string; and then

(a) attempting to write to the RFID tag and (b) validating whether the RFID tag has been written successfully by reading the RFID tag after attempting to write it;

if the RFID tag was not written successfully, repeating steps (a) and (b) until the RFID tag is written successfully;

assembling data of RFID system operation pertaining to reading and writing the RFID tag;

transmitting the RFID system operation data to a host; and

transmitting the RFID data string to the host.

47. A method according to claim 46 wherein said transmitting steps comprise:

appending the RFID system operation data to the RFID data string to form a combined data string; and

transmitting the combined data string to a host.

48. A method according to claim 46 wherein said transmitting steps are carried out separately.

49. A method of monitoring electronic tag operation in a checkout system having a scanner, the method comprising the steps of:

passing an item through a read volume;

identifying the item by reading a label on the item and obtaining identification data;

determining a location of the item relative to the scanner when the label is read based on which window of the scanner read the label;

reading an RFID tag on the item and obtaining RFID data; and

correlating the location of the item to the RFID tag read operation for use in analyzing system operation.

50. A method of monitoring electronic tag operation according to claim 49 and wherein said determining a location of the item when the label is read includes determining a scan line of the scanner that was used to read the label.

51. A method of monitoring electronic tag operation according to claim 49 and wherein said determining a location of the item when the label is read includes inferring an orientation of the item.

52. A method of operation of an electronic checkout system having a POS terminal coupled to a scanner and an EAS system, the method comprising:

detecting a manual activation of the EAS system to deactivate an EAS tag; and

storing an indication of the detected manual activation of the EAS system.

53.   A method according to claim 52 wherein said detecting step occurs in the EAS system and further comprising transmitting an indication of the detected manual activation of the EAS system to the POS terminal or host system.

54.   A method according to claim 53 and further comprising storing an indication of the detected manual activation of the EAS system in the POS terminal or the host system in response to receiving the transmitted indication.

55.   A method according to claim 52 and further comprising:

identifying an operator logged into the POS system at a time the manual activation of the EAS system is detected; and

storing an identifier of the identified operator in association with the stored indication of the manual activation.

56.   A method according to claim 52 and further comprising:
determining a date and time when the manual activation of the EAS system is detected; and storing the determined date and time in association with the stored indication of the manual activation.

57. A host notification method for use in an electronic checkout system that includes a scanner and an electronic article surveillance (EAS) system, the scanner and the EAS system coupled to an electronic point-of-sale (POS) terminal, the method comprising the following steps:

detecting a manual deactivation attempt of the EAS system;

determining whether deactivation attempt was successful;

if the deactivation attempt was successful, transmitting an indication of the manual deactivation to the POS terminal or host system.

58. A host notification method according to claim 57 wherein said step of transmitting an indication of the manual deactivation comprises transmitting a predetermined signal to the POS terminal or host system.

59. A host notification method according to claim 57 wherein said step of transmitting an indication of the manual deactivation comprises transmitting a predetermined bar code to the POS terminal or host system.

60. A host notification method according to claim 59 wherein said bar code encodes a specially reserved universal product code.

61. A host notification method according to claim 59 and further comprising, responsive to receiving the indication of the manual deactivation, creating a record of the manual deactivation event.

62. A host notification method according to claim 59 and further comprising, in the POS, responsive to receiving the indication of the manual deactivation, transmitting a record of the manual deactivation event to a server or backroom controller.